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Remarks

Claims 2-3, 5-12 and 14-18 are currently pending in the application.

Claim 10 stands objected to for certain informalities. The Examiner's suggestion is gratefully acknowledged and this suggested amendment has been requested.

Claims 2, 3, 5, 10-12, 14 and 19 stand rejected under 35 U.S.C. 102(e) as anticipated by Ponnappan et al, U.S. Patent No. 6,293,333). Claims 2, 3, 6-8, 10-12 15-17 and 19 and 20 stand rejected under 35 U.S.C. 102(e) as anticipated by Joshi et al, U.S. Patent No. 2002/0179284 A1. Claims 6, 7, 15 16 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ponnappan et al in view of Glass et al, U.S. Patent No. 5,720,339. Claims 5 and 14 stand rejected under 35 U.S.C. 103(a) as unpatentable over Joshi et al. Claims 9 and 18 stand rejected under 35 U.S.C. 103(a) as unpatentable over Joshi et al as evidenced by Towata et al, U.S. Patent No. 6,245,442.

It is most valuable to initially point out to the Examiner that the terms "multi-void" and "micro-multivoid" is a term of art well recognized in, especially in the aluminum and copper extrusion arts. As described at pages 5 and 6 of the application and shown in Figure 1, "multi-voids" and "micro-multivoids" are quite specific structures that include as described in the application at page 4, line 23 and

shown in clearly in Figure 1 parallel, longitudinal voids or channels interspersed with and defined by stiffeners or ribs between the opposing planar surfaces. Such structures are conventionally extruded from aluminum, copper or polymers. As evidence of the common usage of this terminology, particularly in the heat exchanger arts, are offered copies of several pages downloaded from a variety of internet sites that offer equipment for processing "micro-multivoids" and "multivoids", an excerpt from page 16 of an Alcoa, Inc. 10K submission and in particular a page from the Crown Unlimited Machine Co. page that shows the structure of such elements. In the specification and claims of the instant application, it is clear that these structures, well known in the art and clearly referred to therein as "micro-multivoids" and "multivoids" are what is meant and intended to be meant by the use of this terminology in the claims of the instant applications. The requirement that these elements include closed channels or "voids" defined by interspersed supporting ribs between opposed planar surfaces is clearly necessitated by their use in, for example, so-called "serpentine" heat exchangers that require such structures for fabrication and operation. From the foregoing, it is respectfully submitted that the terms "micro-multivoid" and "multivoid"can only have one meaning and definition and that these are as described immediately hereinabove.

With this in mind, attention is now directed to the various references presented and cited by the Examiner. Ponnappa et al clearly describe a "micro channel" heat pipe that has no "voids" being open at one surface of each of the

channels so as to allow "the working fluid F to vaporize randomly in the areas designated V" (See Column 5 lines 10 and 11). Quite clearly, such a structure could not be used as the shell for cylinders containing cryogenic fluids and voids 18 used to pass coolant through core 12 to maintain proper internal temperatures (see page 10, lines 15-17 of the specification). Additionally, the structure of this reference has irregular opposing surfaces and not planar surfaces as described in the instant application and required for the successful practice of the instant invention.

In the case of Joshi et al a similar set of shortcomings is evident. Joshi et al describe an "open channeled" thermosyphon device for cooling electronic components. This structure is neither a "micro-multivoid" or a "multivoid" in the sense of the common and well known usage of this term, and clearly the structure of Joshi et could not be fabricated as described in the instant application. Additonally the structure of Joshi et al does not teach parallel, longitudinal voids disposed between a pair of opposing surfaces and defined by integral ribs. Thus, any interpretation of the structure of Joshi et al as reading on the structure claimed in the instant application can only be made in hindsight with some attempt being made to somehow bend the meaning of the structure of Joshi et al to meet the language of the presently submitted claims.

In reference to Towata et al, again, Towata et al do not describe an extruded "micro-multivoid" or a "multivoid" but rather a cast structure that has channels therein. Quite clearly, there is no possible way that the structure of Towata et al

could be fabricated in accordance with the requirements of the structure of the instantly claimed structural element. Towata does not describe in any sense a "micro-multivoid" or "multivoid" and hence rejection of the claims upon this reference even in view of Ponnappan et al discussed above is improper and should be withdrawn.

Finally, as regards Glass et al, Glass et al embed discrete, individual pipes in a refractory wrapping. Glass et al do not describe alone or in combination with Ponnappa et al a "micro-multi-void" or a "multivoid" comprising "voids" defined by supporting ribs extending between opposed planar surfaces. Thus rejection of the claims as obvious over Ponnappan et al taken with Glass et al is similarly improper and should be withdrawn.

In summary, none of the references taken alone or in any combination teach a "micro-multivoid", as commonly understood, having at least one layer of a composite stiffening material attached to each of said two planar surfaces.

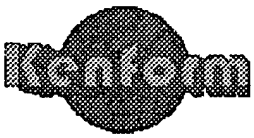
In view of the foregoing amendment to the claims and the remarks presented hereinabove, it is respectfully submitted that the claims as now presented stand in condition for allowance and the same is most earnestly solicited at an early date.

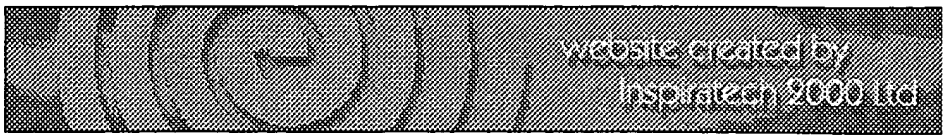
Respectfully submitted,

2/16/04

Auzville Jackson, Jr.
Registration No. 17,306

8652 Rio Grande Road
Richmond, VA 23229
(804) 740-6828
Fax: (804) 740-1881

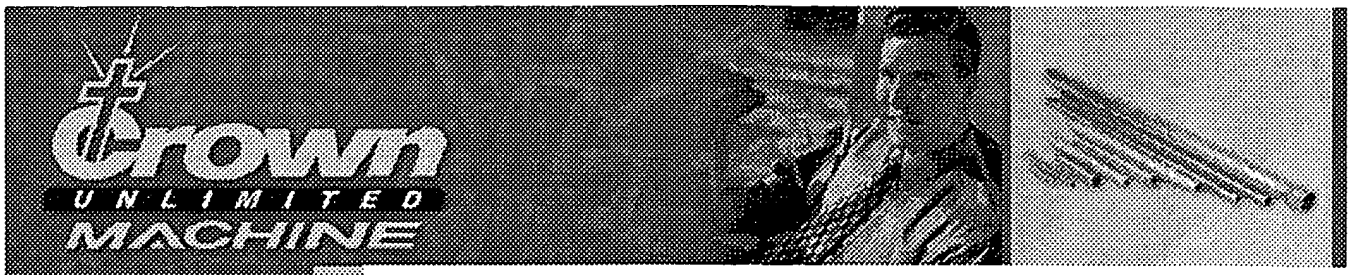




News

- Kenform converts an Aluminium line to Copper production in South Africa, supplying all components and drawings.
- Kenform Technology Ltd has recently updated an Italian production lir with a 50% increase in both output and tooling life.
- Kenform converts a Continuous Rotary Extrusion machine from rod fe to granular feed in the far East.
- Kenform design of Micromultivoid tooling increases output and reliabili by 30% in Far East company.

Kenform Technology Ltd
Tel & Fax: 00 44 (0) 1925 763464
www.kenform.com
info@kenform.com



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Round Tube Cut-Off
Multi-Void/Parallel Flow Extrusion Cutting
Slice Blade Technology
FTCOS-P
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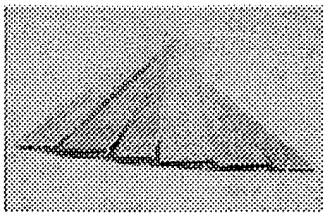
High Volume Micro-Multivoid Cut-off Machinery



The FTCOS Machine Series from Crown Unlimited offers you the latest advancement in High Volume Micro-Multivoid cut-off machinery. Crown has successfully combined its patented Slice Blade™ cut-off method with rugged mechanical drive and modern servo technology to produce the ultimate production system.

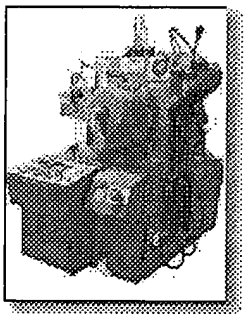
- Crown's patented Slice Blade cut-off system produces the highest quality cut, available world-wide
- 30% Smaller Footprint–consumes much less of your valuable floor space
- Automatic Straighten, Feed and Cut
- Quick Change — Programmable length change, no tools required to change from one part length to another
- High Output–Up to 100 parts per minute (output varies with part length)
- Touch Screen Interface — Easy to use, flexible method of operation and set-up

Crown Unlimited Machine, Inc.
PO Box 335 • 1336 West Wiley Avenue
Bluffton, Indiana 46714 USA

Phone: 260-824-2630 • Fax: 260-824-0129
E-mail: info@crownunlimited.com

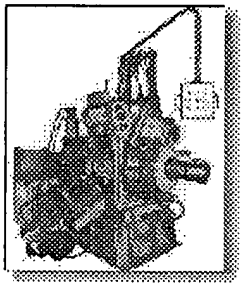
Conform™/Conklad™

As an agent of the company BWE Ltd., Ashford, UK we are y ur contact for Conform™- and Conklad™-machines.



Conform™ machine

Machine for contimous extrusion of sections, rectangular wire, radiator- and micro-multivoid tubes.



Conklad™ machine

Machine for the production of clad or sheated products like steel wire or tubes, CATV, OPGW, power cables and fibre optic cables with aluminium, copper or zinc.

Market applications

The Conform and Conklad systems supplied by BWE Ltd have applications in the following markets.

1.	Electrical Power	- conductors and wire strength members - trolley wires
2.	Electrical Products	- transformers and electromagnet wires - superconductor cable
3.	Communications	- sheathing for CATV distribution cables - sheathing for optical ground wires (OPGW) - cruciform sections for optical fibre support - sheathing of optical fibre cables
4.	Architectural Sections	- aluminium sections including sections for double glazing
5.	Automotive Industry	- radiators and air-conditioning heat transfer tubes
6.	Oil Industry	- cladding of umbilical cords for deep sea oil extractions

Products using aluminium.

1. Solid aluminium sections. These include the standard Solidal forms, and aluminium strips such as transformer or magnet wire.
2. Tubes. The tabular range includes round, elliptical, square, rectangular sections wit a variety of wall thicknesses.
3. Special tubes. Multivoid and micro-multivoid tubes.
4. Sheathed cables. CATV, OPGW and fibre optic cables.
5. Clad wires. Aluminium coated steel wire.
6. Superdonductor cables. Aluminium coating of a superconductor.
7. Other core materials are also possible with and aluminium sheath e.g. carbon steel stainless steel, titanium tubes.

Products using copper.

1. Copper wires and rectangular sections.
2. A wide range of copper profiles.
3. Copper tubes - including redraw tube.

Products using other metals.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

[x] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2000
OR
[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number 1-3610

ALCOA INC.
(Exact name of registrant as specified in its charter)

Pennsylvania	25-0317820
(State of incorporation)	(I.R.S. Employer Identification No.)

201 Isabella Street, Pittsburgh, Pennsylvania 15212-5858
(Address of principal executive offices) (Zip code)

Registrant's telephone numbers:

Investor Relations----------(212) 836-2674
Office of the Secretary------(412) 553-4707

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value $1.00	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months, and (2) has been subject to such filing requirements for the past 90 days. Yes √ No __ .

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [√]

As of January 22, 2001 there were 866,339,457 shares of common stock, par value $1.00, of the registrant outstanding. The aggregate market value of such shares, other than shares held by persons who may be deemed affiliates of the registrant, was approximately $29.05 billion.

Documents incorporated by reference.

Parts I and II of this Form 10-K incorporate by reference certain information from the registrant's 2000 Annual Report to Shareholders (Annual Report). Part III of this Form 10-K incorporates by reference the registrant's Proxy Statement dated February 22, 2001, except for the performance graph, Compensation Committee Report, Audit Committee Report and Audit Committee Charter.

Alcoa Engineered Products' (AEP) soft alloy extrusions, cast rod and cold finished rod and bar are sold to original equipment manufacturers (OEMs) in automotive, commercial transportation, machinery, electrical, consumer durables and other industrial markets and to distributors who service these markets. AEP has six manufacturing facilities located in Catawba, North Carolina; Cressona, Pennsylvania; Elizabethton, Tennessee; Massena, New York; Morris, Illinois and Spanish Fork, Utah.

Alcoa Extruded Heat Exchanger Products has one manufacturing location in Louisville, Kentucky, which produces small diameter round tube and micro-multivoid hollows in coiled form used in heat exchanger applications for automotive and consumer durables.

South America

Aluminio also operates plants in Argentina, Brazil and Venezuela that manufacture aluminum extruded products. Aluminio operates six plants in Brazil that are located in Sorocaba, Utinga, Sao Caetano, Turbarao, Itapissuma and Rio de Janeiro.

Europe

The Company's European extrusions business includes 21 extrusion plants in seven European countries, an independent casthouse and two end product businesses.

Alcoa Extrusions Hannover GmbH & Co. KG produces and markets high-strength aluminum extrusions and rod and bar to serve European transportation and defense markets.

The Company also owns and operates extrusion plants in The Netherlands and Wales.

Alcoa Italia produces and markets industrial extrusions through plants in Bolzano, Fossanova, Feltre and Iglesias, Italy. Also part of Alcoa Italia is an extrusion die shop located in Mori, Italy.

The Company owns and operates extrusion plants in Valls, Noblejas, La Coruna and Irurzun, Spain, as well as a distribution operation for architectural systems, which has warehouses throughout the country. In September 2000, the Company opened a new extrusion plant at La Selva in Spain.

Alcoa also has extrusion plants in Hungary and the United Kingdom. The Company owns and operates three soft alloy extrusion plants that are located in Holland, Germany and the Republic of Ireland which were acquired in the Reynolds acquisition. In addition to producing products for the building and industrial sectors, they also supply the automotive market with heat exchanger tubing and structural parts, including bumpers, car and truck door frames and sunroof frames.

With its acquisition of the British Aluminium Limited businesses, the Company acquired three extrusion plants, which are located in Banbury, St. Helens and Latchford, Great Britain.

Asia

As part of the Reynolds acquisition, Alcoa has a 32.48% ownership interest in Bohai Aluminium Industries Limited in Qinhuangdao, China.

BWE Ltd
Beaver Industrial Estate
Ashford
Kent TN23 7SH
England
Tel: +44 (0) 1233 627736
Fax: +44 (0) 1233 630670
Email: mail@bwe.co.uk
Internet: www.bwe.co.uk
Registered In England No. 2221658

Overview

We are primarily selling capital equipment in price range £0.5M- £1M. As a consequence orders always take months or years with several reciprocal visits between the parties. I do not, therefore expect to get any orders from the mission in October. I do need to make a lot of contacts and spread the message/advantages about the technology. The chances of any contact requiring the equipment at this time is very small, so the objective is to produce a list of potential future customers with whom I have had eye-to-eye contact and an introduction.

Initial meetings need only be about an hour. It is "par for the course" that most of the meetings will not lead anywhere (which is why we need a good number). Those that are fruitful will be followed up at a later date and people who are seriously interested will come to England.

Customers are generally significant sized manufacturing companies. Our equipment produces considerable volume of product so the customer has to be substantial.

The Business

Customers can be divided in two - those which are **copper** oriented and those which are **aluminium** oriented.

Copper. Our machines make small rectangular copper sections (used in transformers, magnets, motors) through to large sections (Busbar for electricity distribution). The sections may also be of quite complicated shape which usually find their way into electrical equipment. The products from our machine are continuous and long (they are wound on a drum), but they may subsequently cut into quite small pieces. Customers will have copper in their products or they may make copper rod which is the feed material to our machine..

Aluminium. Aluminium products are long and wound on a drum in the first instance. Because they are long and continuous they lend themselves to cable products.

Solid sections. Power conductor, used by companies which make power cables (product is sometimes called Solidal)

Tubes. Wide range of sizes and aluminium alloys. Tubes are subsequently cut and bent and are used in the automotive industry - cars through to commercial vehicles. Tubes are also used in refrigeration and air conditioning systems. There are also special tubes called micro-multivoid which are used in the heat transfer block of air conditioning systems in motor vehicles - including cars.

Cable products. The machine will coat steel wire with aluminium. This is used as a strength member in various cables and as armouring in communications cables. It can also be used as a structural cable. Known throughout the world as AS wire. Likely user will be cable making companies.

The machine will also form a continuous aluminium tube over a fibre optic core or other communications system (sometimes these are referred to as OPGW, a communications system carried by power cables on pylons, and CATV which stands for community aerial television)